

## CLAIMS

Having thus described my invention, I claim:

1        1.     A structural reflective insulating material comprising:  
2                a first outer layer of metal foil;  
3                an adhesive binding coating material on an inner side of said first outer  
4 layer of reflective foil;  
5                at least a first layer of foam material secured to said first layer of said  
6 reflective foil;  
7                at least one layer of mesh material sandwiched between at least said first  
8 layer of foam material and at least a second layer of foam material;  
9                at least a second layer of foam material;  
10               a coating or adhesive binding material between at least a second layer  
11 of foam material and at least a second inner layer of reflective foil; and  
12               at least a second layer of reflective foil bound to at least a second layer  
13 of foam material by the adhesive binding material.

1        2.     The structural reflective insulating material of claim 1 wherein at least  
2 one of said first outer and second inner layers of reflective foil is aluminum.

1        3.     The structural reflective insulating material of claim 1 wherein at least  
2 one of the first and second layers of foam material comprise polyethylene foam.

1        4.     The structural reflective insulating material of claim 2 wherein at least  
2 one of the first and second layers of foam material comprise polyethylene foam.

1           5.     The structural reflective insulating material of claim 1 wherein the  
2     coating of adhesive binding material is polyurethane.

1           6.     The structural reflective insulating material of claim 2 wherein the  
2     coating of adhesive binding material is polyurethane.

1           7.     The structural reflective insulating material of claim 3 wherein the  
2     coating of adhesive binding material is polyurethane.

1           8.     The structural reflective insulating material of claim 4 wherein the  
2     coating of adhesive binding material is polyurethane.

1           9.     The structural reflective insulating material of claim 1 wherein the mesh  
2     material is one from a group consisting of aluminum or galvanized steel.

1           10.    The structural reflective insulating material of claim 2 wherein the mesh  
2     material is one from a group consisting of aluminum or galvanized steel.

1           11.    The structural reflective insulating material of claim 3 wherein the mesh  
2     material is one from a group consisting of aluminum or galvanized steel.

1           12.    The structural reflective insulating material of claim 4 wherein the mesh  
2     material is one from a group consisting of aluminum or galvanized steel.

1 13. The structural reflective insulating material of claim 5 wherein the mesh  
2 material is one from a group consisting of aluminum or galvanized steel.

1 14. The structural reflective insulating material of claim 6 wherein the mesh  
2 material is one from a group consisting of aluminum or galvanized steel.

1 15. The structural reflective insulating material of claim 7 wherein the mesh  
2 material is one from a group consisting of aluminum or galvanized steel.

1 16. The structural reflective insulating material of claim 8 wherein the mesh  
2 material is one from a group consisting of aluminum or galvanized steel.

1 17. A method of manufacturing a structural reflective insulating material  
2 comprising the steps of:

3 coating a first layer of reflective foil on one side with an adhesive

4 binding material;

5 placing a first layer of foam material against the coating;

6 laying a mesh material on the first layer of foam material;

7 placing a second layer of foam material over the mesh material;

8 coating a second layer of reflective foil on one side with an

9 adhesive binding material;

10 placing the second layer of reflective foil with the side coated  
11 with an adhesive binding material against the second layer of foam  
12 material; and

13 running the material through a heat press to bind all layers of  
14 material together to form an integral structural reflective insulating  
15 material.

1 18. A method of making an air duct from a structural reflective insulating  
2 material comprised of a first outer layer of reflective foil; an adhesive binding  
3 coating material on an inner side of said first outer layer of reflective foil; at least  
4 a first layer of foam material secured to said first layer of said reflective foil; at least  
5 one layer of mesh material sandwiched between at least said first layer of foam  
6 material and at least a second layer of foam material; at least a second layer of foam  
7 material; a coating or adhesive binding material between the at least a second layer  
8 of foam material and the at least a second inner layer of reflective foil; and the at  
9 least a second inner layer of reflective foil, comprising the steps of;

10 folding a piece of the structural reflective insulating material as  
11 many times as necessary so that ends of the piece form a channel; and

12 securing the ends together by securing means to form a desired  
13 configuration.

1 19. The method of forming the air duct in claim 18 wherein the securing  
2 means consists of metallic tape.

1           20.    The method of forming the air duct in claim 18 wherein the desired  
2 configuration is substantially rectangular.

1           21.    The method of forming the air duct in claim 18 wherein the desired  
2 configuration is substantially circular.

1           22.    The method of forming the air duct of claim 21 wherein the securing  
2 means further comprises an inward curved hook on one end of the material and an  
3 outward curved hook on a second end, said curved hooks being interconnected to  
4 lock the duct in the substantially circular configuration.

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